

REMARKS

Status of the claims

Claims 1-3, 6-18, 20-24, 27 and 57-86, as shown in the response filed on October 26, 2004, are presently pending in the application. Claims 57, 60 and 62-71 are under consideration.

35 U.S.C. § 102(e)

Claims 57, 62-68, 70 and 71 stand rejected as anticipated by Cox et al., U.S. Patent No. 6,534,261. (Office Action, paragraph 3) The Office Action points to Cox's disclosure of designed zinc finger proteins (ZFPs) that bind to and repress expression of a VEGF gene in its natural context and chromatin structure. The Office asserts that, because Cox's ZFPs down-regulated VEGF expression, it follows that they were bound to DNA and formed the claimed complex.

Applicants traverse the rejection and supporting remarks because Cox does not disclose or suggest binding of an exogenous molecule to a target site in an accessible region of cellular chromatin, as claimed. Cox's specification contains no description of accessible regions of cellular chromatin. In contrast, the present specification clearly describes properties of an accessible region of cellular chromatin, as well as exemplary methods for determining whether any particular target sequence is present in an accessible region of cellular chromatin, for example, at page 13, line 10 through page 15, line 2. Briefly, accessible regions are characterized in the present specification by virtue of their reactivity to various chemical and enzymatic probes, not by virtue of being bound by a protein. Thus, binding of a protein to a target site in cellular chromatin does not define that target site as an accessible region of cellular chromatin. Consequently, although the VEGF-regulating ZFPs disclosed by Cox bind to their target sites in the VEGF gene, Cox is completely silent as to whether these target sites are present in accessible regions of cellular chromatin.

Applicants also note that Cox's disclosure of regulation of a VEGF gene by a designed zinc finger protein does not inherently disclose the claimed complex of an

exogenous molecule and a binding site in an accessible region of cellular chromatin.¹ In order to prove anticipation by inherency, when the reference is silent about the asserted inherent characteristics, it must be clear that the missing descriptive matter is necessarily and inevitably present in the method described in the reference. *See, e.g., Ex parte Levy*, 17 USPQ2d 1461, 1464 (BPAI 1990). Inherency cannot be established by probabilities or possibilities. *See, e.g., Continental Can Co. USA, Inc. v. Monsanto Co.* 20 USPQ2d 1746, 1749 (Fed. Cir. 1987).

In the present case, although Cox's zinc finger proteins bind to, and regulate expression of, a VEGF gene, the Office has not established that the binding sites for Cox's zinc finger proteins are necessarily and inevitably present in accessible regions of cellular chromatin. Moreover, it was known in the art, as of the filing date of the present specification, that certain proteins are capable of binding to non-accessible chromatin. *See, for example, Wong et al. (1997) EMBO J. 16:7130-7145* (copy attached hereto as Exhibit A) and *Cirillo et al. (1998) EMBO J. 17:244-254* (copy attached hereto as Exhibit B). In light of this evidence that not every binding site occurs in an accessible region, and in the absence of a showing by the Office that the binding sites for Cox's VEGF-regulating zinc finger proteins are necessarily and inevitably located in accessible regions, any presumption that all ZFP binding sites are located in accessible regions of cellular chromatin is unfounded and cannot support an anticipation rejection based on inherency.

For the aforementioned reasons, Applicants believe the rejection is in error and should be withdrawn.

35 U.S.C. § 103(a)

Claims 60, 65 and 69 stand rejected as obvious over Cox *et al.* (as cited above under § 102) in view of Greisman *et al.*, Neely *et al.* or Gross *et al.* (Office Action paragraphs 4-6) Inasmuch as none of the secondary references cure the deficiencies of Cox *et al.* in failing to disclose a complex between an exogenous molecule and a target

¹ Although the Office Action does not explicitly state that the claimed complexes are inherent in Cox's disclosure, Applicants address the issue in the interest of compact prosecution

site in an accessible region of cellular chromatin, the rejection is improper and should be withdrawn.

Moreover, at the time the presently claimed subject matter was invented, it was subject to an obligation of assignment to Sangamo BioSciences, Inc.² and Cox *et al.* was owned by Sangamo BioSciences, Inc.³ Accordingly, by virtue of 35 U.S.C. § 103(c), Cox *et al.* is unavailable as a reference under 35 U.S.C. § 103(a).

CONCLUSION

For the reasons set forth herein, Applicants believe that all pending claims are novel and non-obvious and are therefore in condition for allowance. Applicants also remind the Office of their right to rejoinder of claims in Groups 1a, 1b, 2 and 3 (*i.e.*, claims 6, 7, 9-17, 20-24, 27, 75, 76, 78-81, 83) and in Groups 4 and 5 (*i.e.*, claims 58, 59 and 61) upon allowance of the claims presently under consideration.

Respectfully submitted,

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² Said obligation having been fulfilled as documented at Reel 012068/Frame 0811

³ As documented at Reel 010418/Frame 0960